AMSAT News Service Weekly Bulletins
Issue: ANS-020
Date: 2013-01-20
Sources: amsat-ans-2013-ans-020-weekly.txt

AMSAT NEWS SERVICE
ANS-020

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an
active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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ANS-020 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 020.01
>From AMSAT HQ SILVER SPRING, MD.
DATE, 2012
To All RADIO AMATEURS
BID: $ANS-020.01

SKN on OSCAR 2013 Best Fist Nominations Due

Many thanks to all who participated in AMSAT's Straight Key Night on OSCAR 2013. If you have not already done so, please take a moment to nominate someone you worked for Best Fist. Remember, your nominee need not have the best fist of those you heard, only of those you worked. Send your nomination to w2rs at amsat.org.

This year's event is dedicated to the memory of John Thompson, W1BIH/PJ9JT, who passed away in 2012, aged 96. Although known primarily as an HF DXer and contester, John was also active on OSCAR, mostly on CW.

Those nominated will be recognized in an ANS bulletin in early Feb-ruary, and in The AMSAT Journal.

[ANS thanks Ray Soifer, W2RS for the above information]

AMSAT-DC Workshop on Portable Satellite Ground Stations

The AMSAT-DC Group is planning for a Spring Workshop 2013, to take place on Saturday, March 23, at the NASA Goddard Space Flight Center in Greenbelt, Maryland. It will be a nearly all-day event.

This is a workshop for those who wish to learn more about satellite operations and develop their own portable ground station. Participants will bring their wares to assemble, show, and explain to others that which will feature one or more of the following:

+ One's own laptop computer, with appropriate software installed, such as for satellite tracking, SDR receiver control, antenna control (optional), audio recording, time stamp track, and any of many other apps.

+ The FUNcube Dongle Pro receiver or equivalent. We will emphasize receiving only, and not the transmit side at this particular time.

+ One or more antennas for 146 MHz and 436 MHz, Arrow, Elk, or homebrew on a camera tripod, small mast, homebrew PVC, or handheld.

+ Everything, or almost everything, ought to be designed to be powered from a regulated 12-volt DC source of your choosing. A table will be provided with a shared 120VAC wall outlet within about 50 feet.

Volunteers are invited to join the planning committee (contact Pat at n8pk@amsat.org.) Registration information will be announced by February 15 via the AMSAT News Service (ANS), and on the AMSAT Calendar of Events under http://www.amsat.org

The workshop cost is expected to be low (for incidental items) or free to AMSAT members. Any non-US citizen who would like to attend must contact Pat by February 15 at the latest.

To volunteer or ask questions contact Pat at n8pk@amsat.org.

Links for antenna ideas:
http://arrowantennas.com/
http://www.elkantennas.com/
http://www.g6lvb.com/homebrewarrow.htm
http://www.amsat.org/amsat-new/information/faqs/crow/index.php
http://www.amsat.org/amsat-new/echo/Az_El_Pos.pdf
http://www.wa5vjb.com/references/Cheap%20Antennas-LEOs.pdf
http://www.amsat.org/amsat-new/tools/downloads/iROTOR.pdf
http://www.arrl.org/shop/The-ARRL-Satellite-Handbook/
http://ac6v.com/antprojects.htm

Links for software ideas:
http://www.amsat.org/amsat-new/tools/software.php
http://www.amsat.org/amsat-new/tools/
http://www.moetronix.com/spectravue.htm
http://www.amsat.org/amsat-new/information/faqs/resguide.pdf
http://sdrsharp.com/

Links for receiver ideas:
http://www.funcubedongle.com/
http://www.amsat.org/amsat/intro/sats_faq.html
http://tinyurl.com/cdo9tyo (Spectravue Configuration)
http://sdrsharp.com/

AMSAT-DC
http://patkilroy.com/amsat-dc/

[ANS thanks Pat Kilroy, N8PK, AMSAT Area Coordinator, Maryland-DC
for the above information]

WIA Reports Australian Given an AMSAT Accolade

It was a very humble Tony Hutchison VK5ZAI who received an award from AMSAT North America for the voluntary work he has done for the Amateur Radio on the International Space Station (ARISS) program.

In accepting the award, Tony VK5ZAI said it was a very nice honour which made him feel humble.

"I look at it as a combined effort for all those that have helped over the last 20 years because I couldn't have done it alone," he said.

In praise of ARISS, Tony VK5ZAI said, "They're a great group to work with and he has made many friends through it and amateur radio."

He is the Australian ARISS Coordinator and a Telebridge Earth Station involved in many contacts between the ISS and schools.

The Channel 7 Today Tonight show interviewed Tony VK5ZAI in early 2012, when he gave some great insights as to how Amateur Radio can provide support for NASA, as well as raise public awareness through the ARISS schools program.

The segment has been posted to YouTube and NOW features as a prelude to many Australian school contacts with the ISS.
http://www.youtube.com/watch?feature[illegible]ayer_embedded&v[illegible]soo_oaNkw

AMSAT's Award Citation to Tony stated, "For your support and leadership to ARISS as the key coordinator and mentor of all the ARISS schools in Australia. AMSAT also commends you for your sustained support as the premier ARISS telebridge station operator. Your efforts and can-do spirit are an inspiration to us all."

[ANS thanks the Wireless Institute of Australia and AMSAT-NA for the
above information]

WA8SME Preamps Back in Stock - ARRL SatCat for FT-817 Kit on Sale

One of the AMSAT Store guys, Alan Biddle, WA4SCA reports the initial run of broadband preamps were sold out. This week Alan wrote, "The AMSAT Store now has the popular broadband preamps back in stock. They can be found on the top page at: http://store.amsat.org/catalog/ Thanks to all who have ordered them, and by doing so supported AMSAT operations!"

The QST October 2012 SatCat Interface for FT-817 is now on sale by the ARRL. The satellite computer aided tuning interface described in October, 2012 QST (pp. 40-43) for use with SatPC32 and the Yaesu FT-817 radio is being offered for sale by the ARRL Education & Technology Program (ETP).

The interface was developed by Mark Spencer, WA8SME, as part of resource development for the ARRL ETP and is priced to recover cost plus a small increment toward development as well as a cost share donation to AMSAT.

For more details of the kit, and to place your order go to:
http://www.arrl.org/news/ft-817-satellite-interface-available-as-a-kit

[ANS thanks Alan Biddle, WA4SCA and the ARRL for the above information]

ARISS News

Recent succesful ARISS contacts include

Ecole Les Muriers, Saint Maur Des Fosses, France on 07 Jan.

The contact was direct between OR4ISS and F6KMX/p.
Saint-Maur-des-Fossés is a small city (77,000 people) located at about 15 km South-East of PARIS, separated from the capital by the large Vincennes Forest, and located on the top of a loop formed by the river Marne. The name of the city is inspired from the Chateau of Saint Maur, which was frequently visited by the queen Marie de Medicis in the 16th Century. The school Les Muriers is educating about 500 children in 17 classrooms, aged from 8 to 11 and preparing their access to Middle school. The children's of a classroom of 22 (CM2/ 5th grade) developed with their teacher, the dream of a direct contact, via ham radio, with an astronaut of the ISS. This year, the children are studying the life in space, working on the comprehension of the Space Station and are participating to science and ham-radio activities organized by the Radio-club station of St-Maur (F6KMX).

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Missoula Family YMCA, Missoula, MT on 08 Jan.

Missoula Family YMCA hosted an ARISS contact January 8, 2013 at 16:14 UTC at Target Range School in Missoula, Montana. It was conducted in English and was direct between NA1SS and W7PX. Students talked to the crew aboard the ISS with the assistance of the Hellgate Amateur Radio Club and asked a pool of questions generated from the student winners of an essay contest. The students represent grades 3 - 9 and attend the following Missoula county schools; Target Range, Loyola, St. Josesph's, Russell, Hellgate Elementary, Lowell and Chief Charlo. The Missoula Family YMCA has been committed to incorporating academic programs to help students figure out their place in the world. We think of the ARISS contact as the real world application of our students' studies of science, technology, engineering and math (STEM). Our participation in the ARISS event can help us achieve this goal and continue to excite the interest in our youth and to promote NASA STEM activities. Missoula is located along the Clark Fork and Bitterroot rivers in Western Montana and at the convergence of five mountain ranges. Thus is often described as being the "Hub of Five Valleys". The 2010 Census put the population of Missoula at 66,788 and has been the second largest city in Montana. The city is also home to four high schools, five middle schools, sixteen elementary schools, two private schools and The University of Montana.

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An International Space Station school contact was completed by Royal Canadian Air Cadets- Newfoundland Cadet Detachment, St. John's, Newfoundland, Canada on 12 Jan. The contact was conducted in English and was direct between NA1SS and VO1BZM.

In preparation for the upcoming ARISS Contact Event, the cadets of 515 Air Cadets along with the local Air Cadet Squadrons focused on the aerospace portion of their training program. The Squadron's training staff added in extra classes in this subject area including lessons focused around various Canadian Astronauts to help familiarize the cadets with Chris Hadfield's career and background. We also encouraged the cadets in the squadrons to check out Col Hadfield's Facebook page and Twitter feed along with looking at various websites with lots of information about the International Space Station. We have canvassed the cadets over the last few weeks to develop the questions they will get to ask and in the coming weeks. They conducted a practice run through with those selected to ask questions. Everyone involved in this event was very enthusiastic and enjoyed the opportunity of participating in this as once in a life time learning event.

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An International Space Station school contact was successful with participants at Saint Rose Elementary School, Saint John, New Brunswick, Canada on 17 Jan. The contact was direct between NA1SS and VE9LC and was conducted in English.

Students in grades three to five from Saint Rose School excitedly prepared for their upcoming communication with International Space Station Canadian Commander, Chris Hadfield. In preparation for this educational event, they took part in a Saint John Astronomy Club presentation by Kurt Nason. A kick-off assembly with special guest Greg D'Entremont in Novemeber. At this assembly, SRS students met their ten Barnhill Memorial School partners who will be asking Commander Hadfield student created questions. In the month of December, each class worked on space projects linked to curriculum outcomes. Some classroom projects linked to the K-2 curriculum, You and Your World, while some students in grades 3-5 worked on Science connections individually, in small group, or as a class. Event day saw some of the projects highlighted. Their final lead-up event of the 2012 calendar year was December 17th when students enjoyed a presentation by UNBSJ Space Studies Professor, Phil Backman. The "Saint Rose School Space Walk" took place on January 9th. Students walked from classroom to classroom to observe projects, ask questionsof project creators, and selected the projects highlighted on eventday. The week culminated with the Science East Planetarium in the gymnasium that all students visited throughout the day for class presentations.

A video of the contact can be found at

http://tinyurl.com/a5fv8qk

The video is under “LifeStyle”,
Then, within LifeStyle, select “Misc.”
The title is “Students talk to Space Station”.

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NASA Teaching from Space is currently accepting proposals for ARISS contacts to be scheduled May-November 2013. Find details on requirements and submitting a proposal below. The current proposal

window closes January 28.

US Hams, don’t forget that there is a new process for US school proposals. For US schools to have an ARISS contact, they must fill out a proposal, submit it to NASA, and see if they are approved or not. Once a school is approved and put on the list, an ARISS mentor will be assigned to assist the school.

NASA will have two open windows a year for schools to submit a proposal.You must go through NASA to get the proposal material. Contact Teaching From Space, a NASA Education office, at JSC-TFS-ARISS@mail.nasa.gov or by calling them at (281) 244-2320.

The following US states and entities have never had an ARISS contact: Arkansas, Connecticut, Delaware, Kansas, Louisiana, North Dakota, Rhode Island, South Dakota, Vermont, West Virginia, Wyoming, American Samoa, Guam, Northern Marianas Islands, and the Virgin Islands.

[ANS thanks ARISS and the ARRL for the above information]

NASA Announces Student Internships for Summer

College Level Internships

NASA says they are accepting applications for college level summer internship positions among several NASA field centers. "But don't wait until the deadline," advises NASA mentor and fellow AMSAT member, Pat Kilroy, N8PK. "The opportunities to work on a CubeSat team, for example, are exciting but pretty competitive."

It is thought that students who know the "AMSAT way" and who have an Amateur Radio license and some hands on experience have a distinct advantage in the midst of such competition.

"That worked for me," said Pat.

Students can view opportunities and apply for them in one place. To start, the prospective student should go to:

https://intern.nasa.gov/

then click the Student Opportunities tab then select Internships, which will bring you to the OSSI:NIFS page describing the overall internship program.

Using the Search Opportunities tab from there, scroll down to the bottom for the "Enter keywords" box and enter "cubesat" without the quotes to view the variety of different opportunities in this field.

Pat Kilroy will be the lead mentor for two of the opportunities described. The first, under the title of "CubeSat Engineering Design Team Project," applicants are called to develop a CubeSat spacecraft bus (i.e., the solar panel and battery charging, power regulation and distribution "EPS" subsystem, the RF communications "COM" subsystem, the command and data handling/processing avionics "C&DH" subsystem, the attitude determination and control "ADAC" subsystem, and the mechanical structures "MECH" subsystem) and one instrument (i.e., a camera/telescope payload). Hardware and software skills will be well represented. The team will need a student Systems Engineer as well.

Each intern will consult with a NASA engineer in their area of specialty throughout the summer.

In the second, under the title "PICetSat Module Development," one or two student interns are called to perform any of a number of tasks, including one to develop a "dual-use" ground station for CubeSats and high-altitude balloon and sounding rocket experiments. This task will involve satellite and balloon tracking, RF systems, test equipment and antennas and antenna control automation.

Additional details are available on the OSSI:NIFS site including how to contact the lead mentor for technical questions, and the procedure on how to apply for one of these Goddard Greenbelt positions as well as many others.

High School Internship Applications at NASA

The application process for high school students to apply for a summer internship can be found on the same OSSI:NIFS Web site as given above for the summer at one of many locations around the country. As noted in the opportunity description already mentioned, up to two local high school seniors will be selected to participate on the CubeSat team in Greenbelt.

[ANS thanks NASA for the above information.]

Unilever Buys 22 Flights On XCOR Lynx Suborbiter For AXE Campaign
by Staff Writers
Mojave CA (SPX) Jan 15, 2013

Commercial spaceflight is entering the main stream and looking (and smelling) quite good! United Kingdom-based Unilever Group, and Space Expedition Corporation (SXC) announced a 22 flight purchase on XCOR Aerospace's Lynx Mark II suborbital spacecraft for Unilever's space-themed AXEApollo campaign for the AXE brand of men's cologne, body spray, shower gels and other personal care products.

Unilever will award the first flight to a lucky winner selected from a drawing just after the Super Bowl on February 3rd, and the 21 other winners will come from a year long, 60 country promotional campaign.

That larger campaign includes a 100+ person December 2013 space camp for early stage winners in Orlando called the AXE Apollo Space Academy (A.A.S.A.).

The campaign also includes legendary Apollo astronaut Buzz Aldrin and a 30 second Super Bowl advertisement. For a chance to win, register at www.AXEApollo.com.

"When a global brand leader like Unilever makes a significant commitment to a product like our Lynx, it is a clear sign that commercial spaceflight has entered the main stream of worldwide commerce and truly is the Next Big Thing," stated Andrew Nelson, Chief Operating Officer of XCOR Aerospace, "Expect to keep seeing more good news from SXC as they ramp up in 2013!"

[ANS thanks space-travel.com for the above information]

European student codes reach ISS

European finalists.
Operating droids in space was no obstacle for a German-Italian alliance to reach the finish line of the Zero Robotics tournament. The European winners commanded mini-robots to dodge virtual dust clouds and rendezvous with disabled satellites, all in the weightlessness of the International Space Station.

This year's competition gave over 130 high-school students from across Europe the opportunity to operate droids in space by coding software.

Six alliances made of teams from Italy, Germany, Spain and Portugal witnessed how their computer codes worked in the Space Station from ESA's ESTEC space research and technology centre in the Netherlands

The RetroSpheres space game involved two mini-robots racing through a course using the least amount of fuel. During the three-minute programmed dance, the volleyball-sized spheres moved using 12 squirts of compressed gas.

Competitors could collect extra fuel from decommissioned satellites and deorbit the satellites for extra points while navigating through their opponent's dust clouds.

"It is really special to see what these students have created and get to operate their algorithms in space," said NASA's Kevin Ford on the Station. The astronaut, together with crewmate Tom Marshburn, set up the matches from Japan's Kibo laboratory.

The team with the most fuel left over in the European finals was the BEER alliance - the Brotherhood of Esteemed European Researchers. German and Italian high-school students developed the software that calculated the winning path for their robot in an exciting final game that demonstrated Newton's laws of motion.

Robotic future
The challenge to control these robots remotely began in the United States, where an adventurous professor from the Massachusetts Institute of Technology found inspiration from the Star Wars saga. The mini-spacecraft have been used on the Station since 2006 to try out manoeuvres.

ESA astronaut Andre Kuipers, who ran the competition from the Station last year, hosted the event from ESTEC. "Europe is embarking on robotic-related missions. Robots are and will be of great help in space," he noted.

Spacecraft fuel consumption - carbon dioxide in this case - was a programming issue for the students. "Most of us knew nothing about computer science before this competition. Teamwork and creative strategies helped us to succeed," explained Jaime Sevilla, one of the Spanish players.

Teachers were pleased to see their pupils learn to communicate with each other, gaining technical knowledge and boosting their enthusiasm.

[ANS thanks Space Daily for the above information]

Satellite Shorts From All Over

+ Tom, K8TL reports a successful December 27 contact with Jari OH2FQV via FO-29. At 7170 km distance this may be a new distance record for this satellite. Tom noted was about a minute between AOS and LOS between the two stations.

+ Luis, EC4TR reports a successful contact between Spain and Brazil with Paulo, PV8DX via AO-7 mode B on January 11.

+ AMSAT-India invites interested satellite operators to view the A-I President's Message and 2012 Accomplishments in a presentation at: http://amsatindia.org/reports/AI-2012.pdf (via Nitin, VU3TYG)

+ The latest TAPR PSR Digital Journal for Autumn 2012 is now available at: http://www.tapr.org/psr/psr120.pdf

+ Ivo Klinkert, PA1IVO, has posted his article, "A Multi-purpose Portable Setup," on his web at: http://ivok.home.xs4all.nl/pa1ivo/portable_satellite_setup.html The article already appeared in the March 2012 issue of the AMSAT-DL

  Journal and later in two issues of OSCAR NEWS (July and September 2012), but the on-line version includes more images.

+ In Series Five, Episode Twenty-Six, of the ICQ Amateur/Ham Radio Podcast Martin M1MRB reviews the Raspberry Pi Linux-based single board computer's uses for Amateur Radio: http://tinyurl.com/ICQ-Podcasts-Pi

+ Here is a WebSDR receiver, located in Playa de Muchavista - Campello (Alicante - Spain), operated by EA5CV & EA5DOM which allows you to tune two microwave bands: 10.3 GHz and 2320 MHz: http://maxiplaya.dyndns.org:8901/ (via Michel, F6HTJ)

+ Soyuz rockets will be taking Americans to ISS http://tinyurl.com/baabs67 (via Space Daily)

+ China to launch 20 spacecrafts in 2013 http://tinyurl.com/al62yml (via Space Daily)

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD